

SR 16 Ramp Meters Go Live!

In an effort to reduce chronic traffic congestion between 6 a.m. and 10 a.m. on eastbound State Route 16, WSDOT has begun metering five on-ramps from State Route 302 (Purdy) to the Tacoma Narrows Bridge. The ramp meters went live August 30. WSDOT advanced the construction of the stop-and-go signals to ease eastbound traffic congestion made worse by the new bridge construction. Ramp metering along the SR 16 corridor has long been planned as one aide to commuters. Scheduled to go live last April, the meters were delayed until technical problems with traffic cameras were resolved.

From the beginning, WSDOT field staff has closely monitored traffic flow at the interchanges of SR 302, Burnham, Wollochet, Olympia and 36th. Traffic center staff in Tacoma, keep a watchful eye on camera images and adjust the meters to provide the best balance of ramp to highway traffic. The peak-period commuter helps the process by remembering to pull up to the stop bar at each ramp meter. Once a car stops before the painted white line, magnetic detectors in the pavement are triggered, turning the meter red, then green.

Ramp meters are not a congestion panacea. The ramp signals will not eliminate morning traffic congestion on SR 16, but they will reduce the amount of time it takes to travel from each ramp to the bridge approach. For example, during the peak weekday traffic hour, 7:30 to 8:30 a.m., drivers using the SR 302 on-ramp can expect to reach the bridge about two minutes faster with the meters in operation. While two minutes may not seem like a big time savings, when multiplied by the typical 15,000 eastbound vehicles that cross the bridge during the morning commute period, the savings adds up.

Tolling Workshops

Join the staff of Tacoma Narrows Bridge toll operations at one of four public meetings related to tolling guidelines on the Narrows Bridge. When the new, parallel suspension span opens to traffic in April 2007, each vehicle headed in the eastbound direction (towards Tacoma) will be charged a \$3 toll. The tolling guidelines will affect all motorists who use the Narrows Bridge.

By holding workshops, the State Department of Transportation hopes to understand the views of bridge users on such topics as customer incentives, payment methods, fees for non-payment and much more. For example, what tolling guidelines should apply to drivers who opt to use the manual toll lanes? Should these drivers be able to pay with cash and credit/debit cards, or only cash? What should be the consequences for drivers who travel across the bridge without paying the toll? Should people who enroll early on for an electronic pass (transponder) receive incentives? Should transponders be available at outlets such as gas stations, grocery stores, and banks? Come make your views known. The dates and locations of the toll workshops will be available soon on the bridge website:

[www.tacomanarrowsbridge.com](http://www.tacomanarrowsbridge.com)

Public Outreach

- Provided project tours for an Indonesian delegation visiting the city of Port Angeles, for consultant engineers, Attorney General's staff and Mason County engineers
- Narrated a marine tour of the bridge for Financial Network
- Successfully informed public of activation of first ramp meters in Pierce County.
- Provided features on website about cable spinning.

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Toll Operations

August

- Approved Final Toll System design Test Procedures reviewed by DOT
- Toll System Installation plans reviewed by DOT
- New Toll Operations staff hired - Operations Manager, Customer Services Manager, Financial Analyst
- Toll Plaza nearing completion

September

- Seventh TNB bond sale
- Preview toll system for DOT staff in Gig Harbor
- TransCore & DOT accounting staff workshops
- Finalize credit card processing procedures

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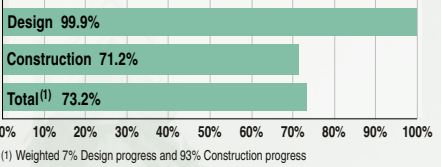
For more information about the bridge project, visit the TNB web site:

[www.tacomanarrowsbridge.com](http://www.tacomanarrowsbridge.com)



Progress to Date

(% Complete)



New Bridge Statistics:

**Bridge Length:**  
5,400 ft. *(overall)*

**Main Span:**  
2,800 ft. *(tower to tower)*

**Deck Panels:**  
46 sections, 120 ft. by 78 ft. *(each)*

**Tower Height:**  
510 ft. tall  
8,500 cubic yds. concrete *(per tower)*

**Tower Foundations**  
*or Caissons (each):*  
– 1.7 million lbs. steel *(total)*  
– 850,000 lbs. steel *(base or cutting edge)*  
– 6 million lbs. rebar  
– 30,000 cubic yards concrete

**Anchorage (each):**  
– 20,600 cubic yards concrete  
– 900,000 lbs. rebar  
– 90 million lbs. *(total weight)*

**Cable Diameter:** 20.5 inches

**Steel Bundles per Cable:** 19

**Wires per Bundle:** 464

**Structural Steel:**  
35.5 million lbs.  
*(excludes weight of cables)*  
49.7 million lbs.  
*(all steel excluding towers)*

**New Parallel Bridge Completed:**  
Early 2007

**1950 Bridge (Retrofit) Completed:**  
Early 2008

Tacoma Narrows Bridge Project  
Monthly Progress Report

August 2005



Deployment of catwalk mesh

Catwalks Installation Continues

This birds' eye view of the new bridge alignment and west anchorage from the top of the new west Tacoma Narrows Bridge tower shows the temporary catwalks that traverse the west span of the Narrows. The catwalks will be used by construction crews to place each of the 17,632 individual wires that will make up the two bridge suspension cables. The horizontal "crosswalk" seen between the two catwalks is a temporary access platform crews will use to move from one catwalk to another. It will also act as a brace to help stabilize the catwalks in windy conditions.

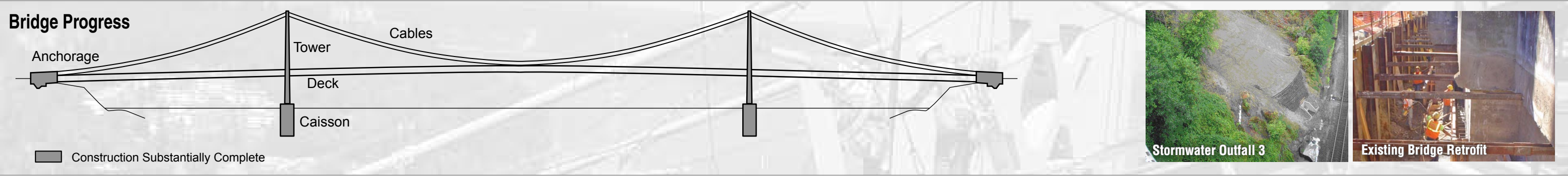
Visible below the catwalks are eight cables. Called "tie-back cables," these cables have a very special function. Once tensioned, their job will be to actually pull the tops of the towers towards the shore approximately two feet in distance, and to keep the towers pulled back during the three months main cable wires are spun. The idea of pulling the towers toward the shore may sound odd at first, but the process is critical to making sure the towers stand perfectly vertical once the bridge is complete. This is the case because the weight of the suspension cables and bridge deck will pull the towers back into their proper, vertical alignment.

In September, the midspan and eastern catwalks will be erected in preparation for cable spinning. Temporary lighting systems will adorn the 2 miles of catwalks and allowing crews to spin cable 24 hours a day during the three-month operation.



Completed catwalk from Gig Harbor tower to west anchorage





## Bridge Progress

In August, Tacoma Narrows Constructors completed the catwalk mesh layout on the west span between the Gig Harbor tower and west anchorage. Catwalk strand installation was started on the main span (between the two towers) and on the east span between the Tacoma tower and the east anchorage. Work on the overseas bridge deck fabrication is approximately 50% complete.

Bridge activities scheduled for September include:

- Bolt up and electrical installation for the west span catwalk
- Erection of east and main span catwalks
- Tram installation

## Milestone Summary

Milestone	Contract	TNC	Months Ahead
Complete toll facility construction	Dec-05	Sep-05	2.8
Start new bridge deck installation	May-06	Feb-06	2.7
Complete superstructure joining of deck sections	Dec-06	Aug-06	3.2
Tolling system ready*	Jun-06	Jun-06	0.0
Complete new bridge and open to traffic	Apr-07	Apr-07	0.0
Complete existing bridge modifications	Feb-08	Feb-08	0.0

\*Transcore Milestone

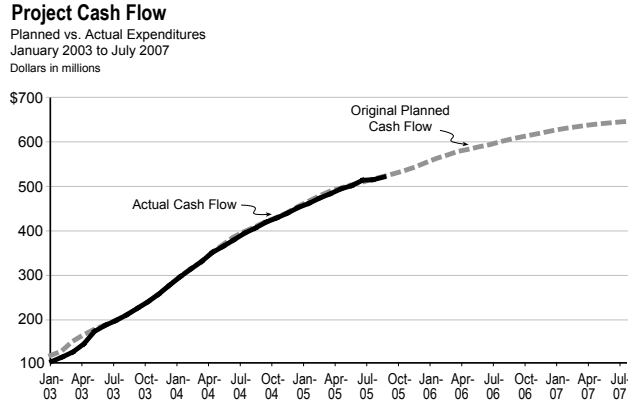
## Roadway/Roadside Progress

Roadway activities in August included removal of the temporary concrete batch plant, the excavation of the stormwater pond at the west end of the existing bridge (Pond C), final lift paving through the Toll Plaza express lanes, the completion of a drainage run to the Narrows, seismic retrofit work at the existing east anchorage, and irrigation installation, landscaping, and flagstone paving at Living War Memorial Park.

In September, crews will continue excavation work for Pond C, retrofit work at the existing east anchorage, and landscaping and flagstone paving at Living War Memorial Park. Also in September, Tacoma Narrows Constructors may reach a milestone by turning over the Operations Building, Crew Facility Building, and Toll Plaza Canopy segments. Crews will be preparing the project site for the up coming wet season.

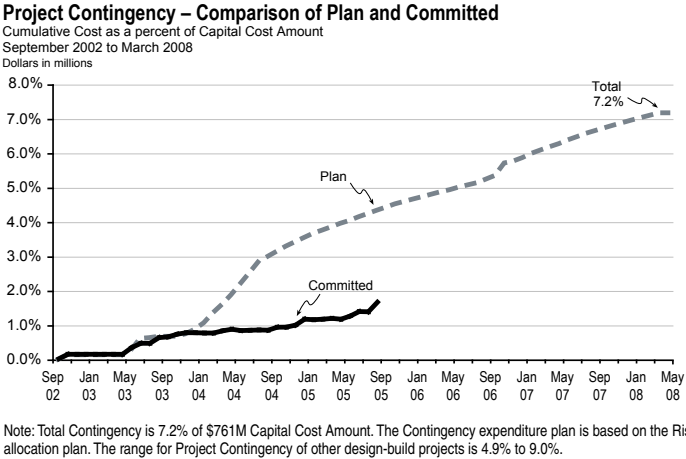
## Financial Status

Project Cost Summary (in Millions)	Budgeted	Expended
Design-Build Contract	\$615.0	\$502.0
Toll System Contract	9.2	3.9
WSDOT Oversight	41.0	16.8
Contingencies Committed	12.6	8.1
Contingencies Remaining	42.1	
Phase I Dev. Cost (UIW)	40.5	39.8
Total	\$760.4	\$570.7
Total Expended/Total Cost	75.1%	



## Project Contingency Use

WSDOT has budgeted \$54.7 million for contingencies on this project. To date, 12.6 million have been committed to changes in the project. These changes are the result of right of way settlements, changed permit conditions, pricing efficiencies, community driven improvements, contractual discrepancies, and maintenance and operations life cycle considerations.



Note: Total Contingency is 7.2% of \$761M Capital Cost Amount. The Contingency expenditure plan is based on the Risk allocation plan. The range for Project Contingency of other design-build projects is 4.9% to 9.0%.

## Environmental Performance

Construction of Pond C began in earnest in August with the removal of the concrete batch plant. The stormwater pond, located on the west end of the bridge, was originally designed as a rectangular-shaped Pond. WSDOT changed the shape of the pond into a more natural, aesthetic shape after conducting a series of planning workshops with surrounding neighbors and community leaders. The new pond shape fits in with a community vision of how the surrounding property will be used once current construction staging and office uses are finished.

During the month of August, there was one environmental incident. A small amount of diesel was spilled during the refueling of a winch on the Gig Harbor pier top. The winch was subsequently replaced with an electric winch.



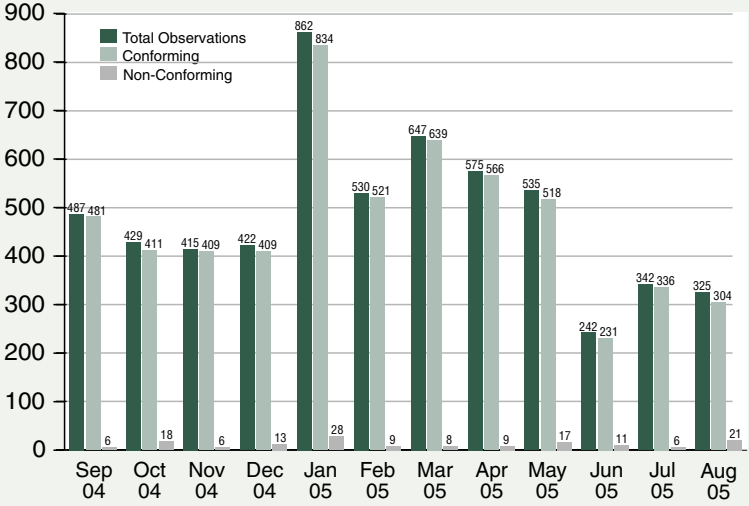
Pond C in early stages of construction.



Dismantling of the concrete batch plant begins.

## Quality Performance

During August, WSDOT staff completed the following audits:



WSDOT employs a Compliance Audit System to ensure that work on the project conforms to contract requirements. Compliance audits are conducted regularly in two areas: construction activities occurring in the field, and management policies and systems designed to ensure a quality product. Field audits measure construction performance against the contract plans and specifications. Management system audits measure performance against such items as the Design/Builder's Quality Management Plan; WSDOT policies and procedures; Project Management Plan; and other contractual and legal requirements.

Compliance Audit System findings for the month of August are as follows:

- 37 individual audits of design/builder work activities;
- 325 contractual requirements observed and verified for compliance; and
- 21 non-conformance findings;
- 31 total outstanding non-conformance findings.

The 31 outstanding non-conformances are within normal expecatations for a project of this size. WSDOT continues to actively resolve the non-conformance issues with the design-builder. The overall audit findings continue to indicate the construction work is generally complying with contract requirements.

## Safety Performance

1,856,310 hours worked with one lost time accident.

August-05	Hours Worked	Recordable Cases	LWD Cases	Lost Workdays	Restricted Cases	Restricted Days	Fatalities
TNC	41,801	0	0	0	0	0	0
WSDOT	5,360	0	0	0	0	0	0
Total	47,161	0	0	0	0	0	0
Project to Date							
TNC	1,663,845	16	1	22	5	186	0
WSDOT	192,465	0	0	0	0	0	0
Total	1,856,310	16	1	22	5	186	0